

## **DETAILED ACTION**

### ***Response to Applicant's Amendment***

1. The examiner notes applicant's submitted affidavits defining the claimed average processor load.
2. Based upon the examiner's amendment below, the examiner withdraws all rejections to all claims.

### ***Examiner's Amendment***

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Thomas Jackson on 3-5-2010

**Claim 27** has been cancelled.

The following claims have been amended as follows:

1. (Currently amended) A method comprising:

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implementing a telecommunications application of an electronic device, said electronic device comprising a first personal computer;

sampling a telecommunications signal of said telecommunications application at a first sampling rate; and

utilizing sound output of an entertainment sound adapter of said electronic device, said entertainment sound adapter output being sampled at a second higher sampling rate than said first sampling rate, said entertainment sound adapter output corresponding to a non-training audio application of said electronic device to train an acoustic echo canceller in a background of said telecommunications application so long as a processing load on said processor of said electronic device is less than an average load of said processor of said electronic device.

**10. (Currently amended) A method comprising:**

utilizing sound output of a sound adapter of an electronic device comprising a first personal computer, said sound adapter output comprising audio that corresponds to a non-training audio application of said electronic device, said sound adapter output being utilized for training an acoustic echo canceller of said electronic device in a background of a telecommunications application of said electronic device so long as a processing load on said processor of said electronic device is less than an average load of said processor of said electronic device, wherein the sound adapter output that corresponds to the non-training audio application of said electronic device is a notification of an event unrelated to training of the acoustic echo canceller and comprises a sequence of frequencies including frequencies to train the acoustic echo canceller.

**12. (Currently amended) An acoustic echo canceller comprising:**

an entertainment sound adapter of an electronic device, said electronic device comprising one of a first personal computer and a peripheral device for use with a second personal computer, said electronic device having a telecommunications application involving sound sampled at a first sampling rate, and

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an adaptive filter adapted to be trained using sound comprising audio output of said entertainment sound adapter of said electronic device sampled at a second higher sampling rate, wherein said audio output of said entertainment sound adapter corresponds to a non-training audio application for training said adaptive filter in a background of said telecommunications application so long as a processing load on said processor of said electronic device is less than an average load of said processor of said electronic device.

**21. (Currently amended)** An acoustic echo canceller comprising:

an adaptive filter adapted to be trained so long as a processing load on said processor of said electronic device is less than an average load of said processor of said electronic device using sound comprising audio that corresponds to a non-training audio application; and

a sound adapter of an electronic device coupled to said adaptive filter for outputting audio sound of said non-training audio application;

wherein the output audio sound that corresponds to the non-training audio application is a notification of an event unrelated to training of the acoustic echo canceller and comprises a sequence of frequencies including frequencies to train the acoustic echo canceller.

**23. (Currently amended)** A method comprising:

implementing a telecommunications application of a computer having a telecommunications signal sampled at a first sampling rate;

receiving sound output of an entertainment sound adapter from the computer at an acoustic echo canceller in a peripheral device of said computer via one of a USB interface and an IEEE 1394 interface between said computer and said peripheral device, the entertainment sound adapter output corresponding to a non-training audio application, said entertainment sound adapter output being sampled at a second sampling rate, said second sampling rate being higher than said first sampling rate;

utilizing the entertainment sound adapter output that corresponds to the non-training audio application to train the acoustic echo canceller in the peripheral device in a background of

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said telecommunications application so long as a processing load on said processor of said electronic device is less than an average load of said processor of said electronic device; and

performing echo canceling, during the telecommunications application implemented by the computer, using the acoustic echo canceller in the peripheral device.

*Allowable Subject Matter*

**4. Claims 1-26,28** are allowed over the prior art of record

**5.** The following is an examiner's statement of reasons for allowance:

In the examiner's opinion, it would not have been obvious to a person of ordinary skill in the art to implement the claimed EC training based on the comparison to the average load (as defined by applicant) of the processor.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance".

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Jamal whose telephone number is 571-272-7498, and whose email address is alexander.jamal@uspto.gov

The examiner can usually be reached on M-F 8AM-5PM.

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If attempts to reach the examiner by telephone or email are unsuccessful, the examiner's supervisor, Curtis A Kuntz can be reached on 571-272-7499.

The fax phone numbers for the organization where this application or proceeding is assigned are **571-273-8300** for regular communications and **571-273-8300** for After Final communications.

/Alexander Jamal/

Primary Examiner, Art Unit 2614

Examiner Alexander Jamal

March 24, 2010